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KLVIN TECHNOLOGY LABS

AN AI-LED INDUSTRIAL INTELLIGENCE PLATFORM FOR PREDICTIVE MAINTENANCE

Shweta Singh | The CEO Magazine

By most measures, Vinay Kumar Kolusu was on a secure professional path. He had parlayed a merit-based education into a stable, high-impact career at Fortune 500 companies in New York City, a degree of security that is rarely a given for those without inherited advantage. Yet, from the vantage point of global success, the systemic vulnerabilities in India's industrial landscape became impossible to ignore.

As manufacturing expands across the country, unplanned downtime, energy waste, and unsafe practices continue to persist. Equipment failures are addressed reactively, even when their consequences extend beyond operations to livelihoods and safety. Over time, this acceptance has become part of how industry functions.

KLVIN Technology Labs was founded to challenge that acceptance and to offer a more deliberate, prevention-led approach to industrial reliability.

THE GENESIS OF KLVIN

Vinay's perspective was shaped long before entrepreneurship entered the picture. He grew up in a middle-class family of six in a tier-2 city. His father, a junior employee at LIC, worked tirelessly, often taking on additional responsibilities and stretching a modest government salary to ensure his children had opportunities he never did. Growing up, he learned what financial vulnerability meant for a family; there was no cushion to fall back on, and a single setback could have altered their trajectory entirely. Stability depended on discipline, persistence, and the belief that education was the only reliable way forward.

That belief carried him through engineering, campus placement, and a career built entirely on merit, eventually taking him to Fortune 500 companies in New York City. Yet professional success abroad did not weaken his pull toward home. In 2019, he chose to return to India and enrolled in the PGPMAX programme at the Indian School of Business, not in search of opportunity, but with a clearer sense of purpose. That purpose crystallised after he began visiting factories across the country. Over fifty such visits revealed a pattern that unsettled him: preventable accidents, workers exposed to failing equipment, and maintenance practices that treated breakdowns as inevitable. These were workers supporting families of their own, much like his father once had. One equipment failure, he realised, could devastate their futures. The problem was not lack of intent but the absence of accessible intelligence. KLVIN was founded to ensure equipment failures don't derail working families.

VINAY KUMAR KOLUSU
FOUNDER - KLVIN TECHNOLOGY LABS

ENGINEERING FOR INDIAN INDUSTRY

In February 2024, Vinay built KLVIN Technology Labs with a clear focus on eliminating unplanned downtime, energy waste, and unsafe practices by making machines intelligent and accountable. KLVIN is an AI-powered Industrial Intelligence platform designed to predict equipment failures before they happen. Unlike conventional monitoring systems that largely report data after the fact, it delivers actionable intelligence that enables timely intervention.

The platform operates across steel, food processing, paper, rubber, pharmaceutical, and heavy engineering sectors, where equipment reliability has a direct impact on productivity and worker safety. It is purpose-built for Indian brownfield factories, where legacy equipment, harsh operating conditions, and limited digital infrastructure are common realities. Designed with these constraints in mind, KLVIN can be deployed in weeks rather than months, at costs that are 60–70% lower than comparable global enterprise platforms.

KLVIN's end-to-end Industrial Intelligence stack includes proprietary multi-sensor IoT devices that capture vibration, temperature, acoustic, and magnetic signals, along with edge AI that establishes machine-specific baselines without requiring historical data.Centralised dashboards provide real-time, multi-plant visibility, while predictive alerts help maintenance teams act before breakdowns occur. In practice, this has resulted in a 30–50% reduction in unplanned downtime, 15–20% energy savings, prediction accuracy exceeding 85%, payback within 6–12 months, and a projected three-year return on investment of 280–350%.

Guided by a clear set of values: outcomes over optics, safety by design, India-first innovation, and integrity in execution, KLVIN aims to become India's most trusted Industrial Intelligence platform.

RADICAL AFFORDABILITY THROUGH FIRST PRINCIPLES

Building deep technology for Indian factories presented two immediate challenges for Vinay. The first was engineering for harsh conditions, dust, heat, power fluctuations, and legacy equipment, where global solutions often fell short. Instead of adapting existing platforms, KLVIN was built from first principles to suit these realities.

The second challenge was trust. Industrial leaders adopt technology only after it proves itself on the ground. Pilot deployments, rapid iteration, and rigorous validation became essential to earning that trust. As Vinay notes, *"Every factory floor taught us something our lab couldn't."*

Those early constraints shaped what ultimately sets KLVIN apart. The platform follows an India-first architecture engineered for tough conditions at 60–70% lower cost, uses edge-native AI to predict failures without relying on historical data, and is designed around outcomes rather than hardware. While global players validate the market, KLVIN is built for India at scale, affordable, quick to deploy, and deeply contextual.

These decisions are guided by clear values. Customer outcomes take precedence over feature complexity, safety is treated as non-negotiable, and long-term trust is prioritised over short-term revenue.

> "I STARTED KLVIN BECAUSE I SAW WORKERS WHOSE FAMILIES DEPEND ON THEM BEING PUT AT RISK BY PREVENTABLE EQUIPMENT FAILURES," VINAY SAYS. "THAT REALITY DRIVES EVERYTHING WE DO."

BUILDING THE RIGHT TEAM

Vinay's approach to talent is shaped by his own career. At KLVIN, hiring is based on problem-solving depth rather than pedigree. Capability, he believes, is proven through performance, not background. Engineers are expected to spend time on factory floors, engaging with real operating conditions, not just screens.

Retention, in his view, comes from impact. Seeing one's work prevent accidents and protect livelihoods creates a sense of purpose that goes beyond roles or titles.

REDEFINING SUCCESS

Vinay defines success as becoming the default intelligence layer for Indian industrial assets where maintenance, energy, and safety decisions are proactive and data-backed. More personally, success means workers returning home safely because failures were predicted before they turned into tragedies. He says,

"HAVING GROWN UP UNDERSTANDING WHAT ONE SETBACK CAN MEAN FOR A FAMILY, PROTECTING THOSE LIVELIHOODS IS THE METRIC THAT MATTERS MOST."

That definition is reflected in what KLVIN has achieved early on. Within its first year, KLVIN secured over ₹62 lakhs in grants from IIT Hyderabad, MeitY TIDE, and iCreate; received a granted patent for its edge-AI architecture; onboarded its first commercial customers; and recorded live deployments across the steel, food processing, paper, pharmaceutical, and rubber sectors. Validated outcomes include a 30–50% reduction in downtime and payback periods of under 12 months, proof, for Vinay, that resilience compounds faster than capital.

SCALING THE INTELLIGENCE BACKBONE

In an industry where failures carry real consequences, staying ahead of change is essential. Vinay does this by staying close to real machines rather than market reports, using continuous pilot feedback, industry partnerships, and on-ground learning to spot shifts early. Insights from his ISB network also provide early visibility into policy changes shaping demand.

KLVIN is currently focused on scaling deployments while maintaining prediction accuracy, alongside expansion into dairy operations, cold chain monitoring, and fleet intelligence. "*Growth that dilutes quality isn't growth,*" Vinay says.

Looking ahead, he sees the industry moving toward autonomous factories where machines self-diagnose and safety incidents are prevented. With India's manufacturing sector set to become the world's third-largest by 2030, KLVIN is positioning itself as the intelligence backbone, with an India-first architecture designed to scale across emerging markets.

FOUNDER'S PERSPECTIVE

Vinay says, "*I built KLVIN because I understand what is at stake for working families. I grew up in one where my father, an LIC employee, stretched every rupee and worked every extra hour to give his children a chance at a better life. Factory workers today carry that same responsibility for their families. One preventable equipment failure shouldn't derail everything they've worked for. That conviction drives us. We're just getting started.*"

On entrepreneurship, his advice is equally direct. "*Start with the problem, not the pitch. Proximity to problems creates proximity to solutions. If you don't come from wealth or privilege, don't let that limit you. I didn't start KLVIN with a large bank balance; I started with conviction shaped by lived experience. Understanding struggle deeply is an advantage, not a handicap.*"